Boiler Environmental Certification Workbook

For use with DEP's Environmental Results Program

Massachusetts Department of Environmental Protection

ERRATA SHEET

The version of the Boiler Environmental Certification Workbook dated 10/05/01 contains an error. The second paragraph on page 4 under the heading [1.1] Who is Subject to ERP Boilers? includes an exemption for burner replacements which was proposed as an amendment to the Air Pollution Control Regulations, but not promulgated. Therefore, the following text has been deleted from the workbook.

"If the new burners are of equal or lower capacity than the replaced burners and the fuel burned in them is the same or a cleaner fuel, the burner replacement is exempt from pre-construction plan application requirements."

Burner replacement is NOT exempt from pre-construction plan application requirements.

THE
ENVIRONMENTAL
RESULTS PROGRAM

INTRODUCTION

The Massachusetts Environmental Results Program (ERP) is an on-going environmental performance enhancement and measurement initiative that seeks to cost-effectively improve the environmental performance of whole small business sectors. In this regulatory system, comprised of a unique set of linked regulatory tools, small businesses are educated about their environmental impact and obligations, are required to self-evaluate and certify compliance, and are tracked to measure environmental performance changes. The Massachusetts Department of Environmental Protection (DEP) uses a statistical approach to track individual facility and whole-group performance results to identify poor performance areas and to effectively target limited agency compliance assistance and enforcement resources.

The ERP now includes simple performance standards that includes the use of clean fuels, equipment maintenance, and record keeping requirements for new boilers with a heat input rating between 10,000,000 and 40,000,000 Btu per hour. You must submit an initial certification and certify annually that your facility meets environmental performance standards. By simplifying and clarifying the regulatory process, DEP hopes to reduce the cost and time required for compliance, while maintaining effective standards and improving environmental results. This workbook provides the information you must understand to meet your environmental obligations.

11/21/2001

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GETTING STARTED

[1.1] WHO IS SUBJECT TO ERP FOR BOILERS?

An owner or operator who installs a boiler with a heat input rating between 10 million and 40 million Btu per hour (approximately 70 to 280 gallons of distillate fuel oil or 10,000 to 40,000 standard cubic feet (scf) of natural gas per hour) after September 14, 2001 is subject to the requirements of the Environmental Results Program (ERP) for boilers (Boiler ERP). For example, if you install three 5 million Btu per hour boilers, you are not subject to ERP. If you install new boilers rated at 20 million and 5 million Btu per hour, only the 20 million Btu per hour boiler is subject to ERP.

Please note if you replace only the burner(s) in a boiler you are not subject to Boiler ERP.

[1.2] WHO SHOULD READ THIS WORKBOOK?

Boiler Installer:

All boilers with a heat input rating between 10 million and 40 million Btu per hour installed after September 14, 2001 must meet the air emission limits specified in the boiler ERP regulation [310 CMR 7.26(33)] and outlined in this workbook. Therefore, it is crucial that you understand the requirements to ensure that the boiler you install is capable of meeting the standards. You are also a primary source of technical expertise to your customers. Providing the information and service that your customer needs to operate and maintain the boiler as efficiently and cleanly as possible not only minimizes emissions but is a good business practice as well.

Facility Owner/Administrator:

As the owner or chief administrator of the facility, it is important that you understand the regulatory requirements described in this workbook. It is your responsibility to ensure that your new boiler is operated in compliance with the applicable environmental regulations. By ensuring that the "hands-on" person who operates the boiler understands the material in this workbook, you can make sure that the new boiler is run cleanly and efficiently, with minimal impact to the environment. You will also be confident that the compliance certification you sign is completed accurately and truthfully.

In addition to focusing on reducing combustion emissions, the workbook also describes your options for managing boiler-related wastewater (boiler blowdown). Under the heading "Related Activities", this workbook provides information you may need if you remove an old boiler, or if underground petroleum storage tanks are located on your property.

Boiler Operator:

As the boiler operator, it is equally important that you understand the material in this workbook. You are the "hands-on" person who has the daily responsibility to operate and maintain the boiler properly. To ensure compliance you must understand the fuel, stack, operational and record keeping requirements. You should also read the Related Activities section beginning on page 12 if you must dispose of an old boiler or if you manage underground petroleum storage tanks.

[1.3] WHAT YOU SHOULD KNOW AS A FACILITY OWNER / ADMINISTRATOR

- The cornerstone of the Boiler ERP is the use of clean fuels, i.e., natural gas and red dye distillate fuel oil. Natural gas-fired boilers emit significantly lower levels of particulate matter (PM), nitrogen oxides (NOx), and sulfur oxides (SOx) than boilers fired with other fuels. An example of the differences in potential emissions is shown in Table 1 on page 6 in this workbook. Although the use of red dye distillate fuel (0.05% sulfur by weight) results in higher emissions than natural gas, it is significantly cleaner than other grades of oil or solid fuels. For example, the sulfur contents allowed in red dye distillate, #2 distillate ("home heating oil"), and #6 residual fuel are 0.05%, 0.3% and up to 2.2% sulfur by weight, respectively.
- The air pollutants emitted by boilers have significant health impacts, especially to the very young, the elderly, and the people suffering from respiratory illnesses. Particulate matter, especially the small-sized particulate matter generated by fuel combustion, can cause and contribute to serious respiratory problems. SO_2 and NOx are respiratory irritants and key ingredients in the formation of acid rain. NOx is also a major contributor to summertime smog.
- There is no need to obtain a pre-construction plan approval under 310 CMR 7.02. Under ERP you submit an *initial certification* within 60 days following the start of boiler operation. This allows you to quickly replace an old failing boiler. In subsequent years an *annual compliance certification* must be filled out, signed, and submitted to DEP
- There is no fee associated with the initial certification or the annual certification. Previously, the permit application fee was $300 for a Limited Plan Application (LPA). Please note that your facility still may be subject to other DEP fees, such as the annual air quality or hazardous waste compliance assurance fees.

- The Boiler ERP regulation includes two exemptions from the program:

    1. If you want to install a new wood fuel boiler, you must submit a plan application under the permitting regulations, and receive written approval from DEP before the boiler can be installed and operated.

    2. If your facility is or becomes subject to the Air Operating Permit program under 310 CMR 7.00 Appendix C, you are exempt from Boiler ERP. This federally mandated program requires "major sources" of air emissions to obtain an operating permit, which includes all of the air pollution control requirements to which they are subject. See Table 1a or 1b for major source thresholds for specific pollutants.

       If your facility has one or more boilers certified under ERP when it becomes subject to Appendix C, you no longer need to submit annual certifications, but must continue to comply with the performance standards.

- Installation of a new boiler can have facility-wide ramifications. Potential emissions of the new boiler may cause total emissions from your facility to exceed thresholds for other air pollution control requirements, including New Source Review (NSR), Operating Permits, and Prevention of Significant Deterioration (PSD). Tables 1a and 1b displays the potential emissions of criteria pollutants generated by three fuel burning scenarios. Emissions are calculated for the smallest and largest size boilers that are subject to ERP. Potential emissions resulting from burning #6 residual fuel (1% sulfur) are included to demonstrate the differences between burning "clean" fuels under ERP and 1% sulfur fuel, #6 residual fuel.

Table 1a

Potential[1] Emissions in Tons Per Year (10 MMBTU / Hour Capacity Boiler)

Fuel	NOx	SOx	VOC	PM	CO
Natural Gas 12 Months	1.5	0.03	1.3	0.44	3.5
Red Dye Distillate 12 Months	6.6	2.4	1.3	0.88	3.5
Natural Gas-9 Months Red Dye Distillate-3 Mo.	2.8	0.6	1.3	0.55	3.5
#6 Residual Fuel 12 Months	13.1	47.4	*0.34	*2.14	*1.5
Major Source Threshold	50	100	50	100	100

[1] Potential emissions mean the maximum capacity of a boiler to emit a pollutant while operating continuously, i.e., 8,760 hours per year.

* These potential emissions are calculated using EPA AP-42 emission factors. The other potential emissions are calculated using regulatory emission limits established in boiler ERP.

Table 1b

Potential[1] Emissions in Tons Per Year (40 MMBTU / Hour Capacity Boiler)

Fuel	NOx	SOx	VOC	PM	CO
Natural Gas 12 Months	6.1	0.11	5.3	1.75	14
Red Dye Distillate 12 Months	26.3	9.5	5.3	3.5	14
Natural Gas-9 Months Red Dye Distillate-3 Mo.	11.1	2.4	5.3	2.18	14
#6 Residual Fuel 12 Months	52.6	190	*1.36	*8.56	*6.0
Major Source Threshold	50	100	50	100	100

As a major source of air emissions you could be subject to one or more of the following:

- Operating Permit Program
- Emission Offsets and Non-attainment Review
- Prevention of Significant Deterioration requirements

If you have any questions concerning whether or not your facility is subject to any of these programs, please call your DEP Regional Service Center for additional information. Appendix 3 lists Massachusetts cities and towns by region.

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Central Regional Office: (508) 792-7650

Northeast Regional Office: (978) 661-7600

Southeast Regional Office: (508) 946-2714

Western Regional Office: (413) 784-1100

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- You should also be aware that compliance with the requirements of Boiler ERP does not relieve you of the responsibility of complying with other regulations, i.e., federal 40 CFR 60

Subpart Dc – Standards of Performance for Small Industrial-Commercial Steam Generating Units, which requires notification, record keeping, and reporting to the U.S. EPA. The EPA Customer Service Center may be called at (617) 918-1111.

- NOTIFICATION TO DEP IS REQUIRED within 60 days following the start of operation. Initial and Annual Certification Forms are available through DEP's InfoLine at (617) 338-2255 or (800) 462-0444, or on our web site at http://www.state.ma.us/dep/erp.

The following sections describe the specific air quality and industrial wastewater requirements.

AIR QUALITY REQUIREMENTS

[2.1] FUEL REQUIREMENTS

Only natural gas and red dye distillate are allowed. These fuels are defined in this workbook on page 13.

[2.1.a] *Natural Gas* - Boilers subject to ERP must burn natural gas as the primary fuel if a natural gas pipeline, having sufficient capacity, exists beneath a street or sidewalk adjacent to the property. Boilers required to burn natural gas as the primary fuel may burn red dye distillate fuel oil as a backup fuel for up to 90 days per calendar year. If backup fuel is burned during **any** part of a day, that is considered one day of backup fuel use. If multiple boilers are subject to ERP, burning backup fuel in any one or combination of them is considered one day of backup fuel use for the facility.

Red Dye Distillate - If a natural gas pipeline having sufficient capacity does not exist adjacent to the property, red dye distillate fuel oil may be burned as the primary fuel.

[2.1.b] Fuel additives may only be used according to the manufacturer's instructions.

[2.2] EMISSION LIMITS

Each facility must keep on-site documentation that the boiler as designed and installed will comply with the emission limits specified in Table 2 when operated according to the manufacturer's instructions. The documentation may be in the form of a written statement from the manufacturer or actual emission test results. The emission limits are in pounds of pollutant per million Btu of fuel input. The boiler industry often specifies emissions in units of "parts per million" (ppm). Therefore, the nitrogen oxides (NOx) and carbon monoxide (CO) emission limits are also listed, in brackets, in units of ppm.

Table 2

Natural Gas		**Red Dye Distillate**	
(lbs. per mmBtu)	[ppm]	(lbs. per mmBtu)	[ppm]

NOx	0.035	[28]	0.15	[116]
Particulate mattter	0.01		0.02	
Carbon Monoxide*	0.08	[50]	0.08	[50]
VOC's	0.03		0.03	

* The carbon monoxide emission limits for natural gas and red dye distillate fuel do not apply to high turndown boilers **while** they are operating at less than 25 % of their maximum input rating.

Sulfur dioxide emissions are established by limiting the sulfur content of the fuel. The sulfur content of the fuel, as certified by the fuel supplier, is limited to:

1. Natural Gas — 0.0006 lbs/million Btu

2. Red Dye Distillate Fuel Oil — 0.05% by weight

Visible emissions may not exceed 10% opacity at any time during boiler operation. Visible emissions do not include water vapor.

[2.3] PERFORMANCE STANDARDS

To ensure efficient combustion and compliance with the emissions standards, boilers must be operated and maintained according to the manufacturer's instructions.

Tune-ups, including efficiency testing, are considered crucial to efficient, clean operation. One of several tune-up options is required, depending on the type of fuel burned.

- If natural gas is the primary fuel, **one annual tune-up** is required.
- If red dye distillate fuel oil is the primary fuel, **two tune-ups** must be performed annually. The additional tune-up is required for oil burning boilers because they emit NOx, SO2, and particulate matter at higher rates than boilers burning natural gas. Therefore, it is especially important that such boilers are operated at peak efficiency.
- Boilers equipped and operated with an *automated combustion control system* (see Section 5: Definitions) are not required to receive DEP-specified tune-ups. However, such boilers must be maintained and serviced as specified by the manufacturer.
- Tune-ups must incorporate an efficiency test. Efficiency tests must include at least a smoke spot reading, measurement of carbon monoxide, carbon dioxide, oxygen concentrations, and flue gas temperature. The tune-up results must be kept onsite for three years.

[2.4] RECORDKEEPING REQUIREMENTS

You must keep the following records onsite for at least three years. This means that each individual record must be retained onsite for three years from the date it was "generated".

- A monthly record of the type and the amount of fuel used, in gallons or cubic feet, as appropriate.
- Number of days in which backup fuel (red dye distillate fuel) is burned during the previous calendar year.
- Fuel sulfur content (percent), as certified by your fuel supplier.
- Results of tune-up(s) including efficiency test results.
- All purchase orders and invoices related to the boiler combustion or emission rate.

In addition, the following must be kept onsite for the life of the ERP boiler(s).

- Manufacturer's operating instructions.
- Documentation from the manufacturer that the boiler as designed and installed meets the required emission limits when operated according to the manufacturer's instructions. Boiler installation test results should be kept for this purpose.
- If applicable, the results of an air quality model run which demonstrates that boiler emissions have not caused an exceedence of the National Ambient Air Quality Standards (NAAQS).

[2.5] STACK DESIGN REQUIREMENTS

Proper stack design addresses *location, height,* and *exit velocity.*

There are three basic requirements for stack design:

[2.5.a] To minimize plume entrapment in wakes caused by obstructions to air streams, the height of your stack must be at least **1.5 times the height of your building** from ground level. If the stack is less than 1.5 times the height of your building, or if any *adjacent structures* are taller than your stack (see *adjacent structure* in Section 5: Definitions), air quality modeling must be performed to document that the NAAQS will not be exceeded. Appendix 1 lists the minimum data inputs that would be needed to execute an EPA Screen3 Model run. If you need assistance, call the BWP Air Planning & Evaluation Branch at 617-292-5766.

[2.5.b] The stack must discharge exhaust gas vertically upwards.

[2.5.c] Stack heads, devices used to prevent precipitation from entering the stack, must not restrict the vertical flow of the exhaust gas stream. Devices such as "shanty caps" and "egg beaters" are prohibited. Coning of the top of the stack is acceptable. No more than a one-inch change in diameter to every five inches in length of cone is recommended in order to avoid serious backpressure that may affect air flow at the point of origin.

Although not specifically required, DEP also recommends the following:

- There should be no fresh air intakes near the stack.
- The flue gas exit velocity should be at least 40 feet per second.
- The construction material can affect the acid dew point and ultimately the life of the stack. Therefore, it is wise to invest in a new stack at the time the boiler is being replaced, if the existing stack does not meet the general standards listed above.

INDUSTRIAL WASTEWATER REQUIREMENTS

"Boiler blowdown" is water released periodically from a boiler to remove impurities and sediment. It is regulated as industrial wastewater. The purpose of releasing blowdown is to limit the buildup of contaminants in the boiler water that may degrade boiler performance and increase maintenance costs. Contaminants may include one or more of the following: dissolved/suspended minerals, heavy metals (iron, copper), corrosion inhibitors, oil, or algicides. Although boiler blowdown is generally non-hazardous, if it is contaminated with oil it must be stored and disposed of as hazardous industrial wastewater.

Boiler blowdown can degrade groundwater or surface water quality, and therefore, must be properly managed. Your options for managing blowdown are briefly described below.

[3.1] Boiler blowdown can be discharged to a sewer. You should contact your local sewer authority (see Appendix B) to determine if it has any special requirements for boiler blowdown.

[3.2] Boiler blowdown MAY NOT be discharged to a septic system. If discharge to a sewer is not possible, you must obtain a groundwater or surface water discharge permit, or store your boiler blowdown in a holding tank or container (see section 3.5 below).

[3.3] Discharge to a surface water body (e.g., storm drain, river, lake, or stream) requires a National Pollutant Discharge Elimination System (NPDES) permit issued by the U.S. Environmental Protection Agency (EPA). For more information, call the EPA at (617) 918-1111 (Customer Service Center).

[3.4] Discharge to groundwater or directly on the ground requires a groundwater discharge permit issued by DEP. The permit, BRP WP 10 - Other Groundwater Discharges, is reviewed and approved by DEP's Bureau of Resource Protection, Water Pollution Control Program. The application fee is $1,300. Copies of the permit application package are available through the DEP Infoline at (617) 338-2255 or 1-800-462-0444.

[3.5] Beginning in the Fall 2001, storage of boiler blowdown or other non-hazardous industrial wastewater in a holding tank requires compliance with design and operating standards and submission of a one-time compliance certification to DEP. Contact the DEP Infoline for a holding tank certification package. If you store boiler blowdown in a container you must comply with design and operating standards, but you need not

submit the compliance certification form. Call the appropriate DEP regional office for information (Appendix 3).

You may use an evaporator to reduce the volume of boiler blowdown before shipping it offsite. A permit is not required. You should test evaporator sludge to determine if it is a hazardous waste and needs to be handled as such. If you have samples of evaporator sludge tested, the results should be kept on file.

RELATED ACTIVITIES

[4.1] Asbestos removal and related construction and/or demolition:

All materials containing asbestos, such as may be found around ducts and old boilers, must be wetted, containerized, labeled and removed by a state-certified contractor in accordance with DEP regulations. Tiny microscopic asbestos fibers from loose or crumbling asbestos can be suspended in air, inhaled and remain in the lungs causing severe health effects. Asbestos is a known carcinogen and has been linked to a variety of respiratory ailments such as asbestosis, mesothelioma and lung cancer. Any removal, disturbance, encapsulation or enclosure of these asbestos materials requires notification to the DEP (Asbestos Notification Form - ANF 001) **at least ten working days in advance.** In addition, any related construction and/or demolition activity requires notification to the DEP (Notification Prior to Construction or Demolition - BWP-AQ 06) **at least ten days in advance.** These notification forms are available through the DEP InfoLine at (617) 338-2255 or 1-800-462-0444 and on the DEP Web site at http://www.state.ma.us/dep.

[4.2] Underground petroleum storage tanks:

Single wall, bare steel underground storage tanks containing petroleum products, including those resting on the ground, were required to meet leak detection and corrosion protection standards, or be replaced, as of December 22, 1998. For more information, contact your local fire department.

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DEFINITIONS AND TERMS

Acid dew point: temperature at which the flue gas condenses on the stack surface.

Adjacent structure: means a structure that is within 5L of the stack. 5L means five times the lesser dimension (height or maximum horizontal width) of the structure.

Air contaminant: volatile organic compounds (VOC's), sulfur dioxide (SO_2), nitrogen oxides (NOx), carbon monoxide (CO), and particulate matter are contaminants of concern in achieving

air quality standards in the United States. Each geographic area is required to meet specific limits for each contaminant.

Automated Combustion Control System: a system that self adjusts burner/boiler operation to maximize energy efficiency. It must include at least the following capabilities: fuel/air ratio adjusted automatically, fuel flow metered/monitored, and continuous monitoring of nitrogen oxides and carbon monoxide.

Boiler: a device that combusts any fuel and produces steam or heats water.

Boiler blowdown: water released from a boiler to remove impurities and sediment.

Container: means any portable device used to accumulate, store, treat and transport industrial wastewater, which is movable without any motorized mechanical device (including but not limited to forklifts). Containers requiring motorized mechanical devices for movement are classified as holding tanks.

Distillate Fuel Oil: fuel oil that complies with the specifications for fuel oil, numbers 1 or 2, as defined by the American Society for Testing and Materials.

Emission: any discharge or release of an air contaminant to the ambient air

Holding Tank: means a stationary device, constructed of non-earthen materials (e.g. concrete, steel or plastic), that provide structural support, used to accumulate and store industrial wastewater. Containers requiring motorized mechanical devices for movement are classified as holding tanks. Tanks that are transportable but not mounted on a truck, or placed on or mounted on a trailer are considered holding tanks. The term holding tank does not include mobile tanks as described under these regulations.

National Ambient Air Quality Standards: Massachusetts is subject to national standards that deal with six criteria pollutants: particulate matter (PM), nitrogen oxides (NOx), sulfur dioxide (SOx), ozone, carbon monoxide (CO) and lead.

Natural Gas: a naturally occurring mixture of hydrocarbon gases found in geologic formations beneath the earth's surface, of which the principal constituent is methane, or liquid petroleum gas (LPG), as defined by the American Society for Testing and Materials. LPG includes propane, butane, or a combination of propane and butane.

Red Dye Distillate Fuel Oil: a distillate fuel oil that meets federal requirements for low sulfur content and is allowed for non-transportation purposes.

Source Registration/Emission Statement: Any person who operates a new boiler subject to this ERP program is required to submit a Source Registration and Emission Statement, including BWP AQ AP-1 form to DEP.

Appendix 1

Minimum Data Inputs Required for an EPA Screen3 Model Run

1. Stack height (feet) =>
2. Stack inside diameter (feet) =>
3. Stack gas exit temperature (^{o} F) =>
4. Stack flow rate (cubic feet per minute) =>
5. Building height (feet) =>
6. Minimum horizontal building width (feet) =>
7. * Maximum horizontal building width (feet) =>
8. Type of fuel (natural gas or red dye distillate fuel oil) =>
9. Millions of Btu per hour of fuel input =>
10. Emission rate (grams per second) =>

* Length of the diagonal line that bisects a building when viewing it from above.

Appendix 2

MASSACHUSETTS SEWAGE TREATMENT PLANTS

Central Region:

Athol WWTP	Off Joan St. Athol	(978) 249-7600	Mark Day
Ayer WWTP	Brook Street Ayer	(978)772-3204	Robert Smith
Barre WWTF	Old Furnace Road, Barre	(978)355-6303	Gerry Ballentine
Charles River PCD	66 Village Street, Medway	(508)533-6762	Robert McRae
Charlton City WWTP	Rte. 20 & 169, Charlton	(508)248-7242	Robert Wilson
Clinton STP	677 High Street, Clinton	(978)365-6144	Rick Trubiano
Douglas WWTF	Charles St, East Douglas	(508)476-2400	N. Skowronski
Dudley WWTP	Lower Schofield Dudley	(508)943-1541	William Carrol,
Fitchburg East WWTF	Lanides Lane, Fitchburg	(978)345-9626	Richard Cooper
Fitchburg West WWTF	Fitchburg	(978)345-9624	Dennis L Meunier
Gardner WPCF	Lower Parker Street, Gardner	(978)632-4137	Jerry Robillard
Grafton WWTP	9 Depot Street, South Grafton	(508)839-9040	Fred Haffty
Hardwick WWTP	Old Mill Road, Gilbertville	(413)477-6959	Thomas Collett
Hopedale WWTP	Mendon Street, Hopedale	(508)473-6251	Donna Ares
Hudson STP	1 Municipal Drive, Hudson	(978)562-9333	Robert Eddy
Leicester WWTP	124 Pine Street, Leicester	(508)892-8484	Frank Lyon
Leominster WWTP	436 Mechanic Street, Leominster	(978)537-5720	Robert Chalifoux
Marlboro East WWTP	860 Boston Post Rd Marlboro	(508)485-1755	Daniel McNamara
Marlboro West WWTF	Boundary Street Marlboro	(508)481-1208	Charles Keyser
Milford WWTP	Route 140 Milford	(508)473-2054	John Roberti
Millbury WWTP	Providence Road, Millbury	(508)865-3780	Bradford Lange
Northbridge WWTP	643 Providence Road, Whitinsville	(508)234-2154	John Blair
North Brookfield STP	East Brookfield Rd, N. Brookfield	(508)867-6195	R. Chamberland
Oxford/Rochdale WWTP	Comminsville Road Oxford	(508)892-9549	Robert Wilson
Pepperell WWTP	Nashua Road Pepperell	(508)433-9859	Henry Albro
Royalston WPCF	Blossom St. South Royalston	(978)249-3318	John Drouin
Southbridge WWTP	Dresser Hill Road Southbridge	(508)764-4927	Paul Krasnecky
Spencer STP	Route 9, Spencer	(508)885-2581	Mark Robidoux
Sturbridge WPCF	Water Works Drive Sturbridge	(508)347-7198	Leroy Wood
Templeton WPCF	Reservoir Road Baldwinville	(978)939-5171	Mark Kajka
Upper Blackstone WPAD	Route 20 Millbury	(508)755-1286	Arthur Levesque
Uxbridge WWTF	River Road Uxbridge	(508)278-2887	William Buma
Webster STP	Off Hill Street, Webster	(508)943-3281	Robert Phillip
Westborough WWTP	Meadow Road, Westboro	(508)366-1870	James Taylor
Upton STP	Maple Avenue West Upton	(508)529-3993	Leo Morin
Warren WWTP	Route 67 West Warren	(413)436-9848	Shaun Romanski
Winchendon WPCF	637 River Street, Winchendon	(978)297-0536	Ed Fitzgibbons

Northeast Region:

Amesbury WPAF	19 Merrimack Street, Amesbury	(978)388-1912	Edwin Crovetti
Billerica WWTP	Letchworth Ave, N. Billerica	(978)671-0956	Arthur Malcuit
Concord STP	509 Bedford Street, Concord	(978)371-7174	James Drapeau
Deer Island STP (MWRA)	Tafts Ave (Rte 145), Winthrop	(617)846-5800	Steven Skturger
Gloucester WPCF	2-50 Essex Ave, Gloucester	(978)281-3741	Peter Nyburg
Greater Lawrence-Sanitary District	Charles St, N. Andover	(978)685-1612	Rick Fuller
Haverhill WWTF	40 South Porter St, Haverhill	(978)374-2382	John Connor
Hull WPCF	1111 Nantasket Ave, Hull	(781)925-0906	Edward Roach
Ipswich WWTP	Fowlers Lane, Ipswich	(978)356-5532	Tim Henry
Lowell WWTF	First Street Bld, Lowell	(978)458-0071	David Phillips
Lynn Regional WWTP	Commercial Road, Lynn	(781)592-7048	Michael Sause
Manchester WWTF	Beach Street, Manchester	(978)526-4612	John Sibbalds
Maynard WWTF	Pine Hill Road, Maynard	(978)897-1020	Charles Helen, Sr.
Medfield WWTP	99 Bridge Street, Medfield	(508)359-4533	Peter Oaffoia
Merrimac		(978)346-9988	Charles Navin
Newburyport WPCF	157 Water Street, Newburyport	(978)465-4422	Glenn Smith
Nut Island STP (MWRA)	147 Sea Avenue, Quincy	(617)479-1919	George Marcham
Rockport WWTP	Pleasant Street, Rockport	(978)546-7888	Robert Cashman
Salem/South Essex SD		(978)744-4550	Harold Newhall
Swampscott WWTP	531 Humphrey St, Swampscott	(781)592-5393	Ronald Chandler
Wayland/Sudbury/ Septage Treatment	490 Boston Post Rd Wayland	(508)358-7328	Bruce Stang

Southeast Region:

Attleboro WWTP	Pond Street Attleboro	(508)761-5167	Paul Nicholson
Barnstable WPCD	Barnstable DPW Hyannis	(508)775-1120 x 219	Peter Doyle
Bridgewater WWTP	Morris Avenue Bridgewater	(508)697-6151	Joseph Souto
Brockton WWTP	Oak Hill Way Brockton	(508)580-7885	Steven Kruger
Chatham WPCF	49 Sam Ryder Rd West Chatham	(508)945-2286	Richard Peters
Cohasset WWTP	43 Elm Street Cohasset	(781)383-6630	Steven Cushing
Dartmouth WPCP	759 Russels Mills Road Dartmouth	(508)999-0740	David Andrade
Edgartown STP	West Tisbury Road Edgartown	(508)627-5482	Steve Vancour
Fairhaven WPCF	Arsene Street Fairhaven	(508)993-5427	Alfred Raphael
Fall River WWTF	1979 Bay Street Fall River	(508)672-4530	Ron Laro
Falmouth WWTP	154 Blacksmithshop Rd Falmouth	(508)540-9437	Robert White
Mansfield WWTF	Hill at Crane Street Norton	(508)285-5746	Gerry St. Hilaire
Marion DPW	2 Spring Street Marion	(508)748-2500	Richard Guerzoni
Marshfield WWTP	200 Town Pier Road Marshfield	(781)837-5021	Karl Nordin
Middleboro WPCF	Off Everett Street Middleboro	(508)947-4853	Joseph Ciaglo
New Bedford WPCF	Fort Rodman New Bedford	(508)991-6165	Ronald Labelle
North Attleboro WPCF	Off Chestnut St North Attleboro	(508)695-7872	Joseph Wyrostec
Orleans TriTown Septage Facility	Overland Way Orleans	(508)255-1150	William Luksha
Plymouth STP	197 Water Street Plymouth	(508)747-1620x461	Harold Strassel
Rockland WWTP	Concord Street Rockland	(781)878-1863	Aram Varjabedian
Scituate WPCF	161 Driftway Street Scituate	(781)545-6700x265	Ken Bates
Somerset WWTP	116 Walker Street Somerset	(508)679-0810	Frank Arnold

Taunton WWTP	825 West Water Street Taunton	(508)823-3582	John Dunty
Wareham WPCF	Rte 6 Off Sandwich Rd Wareham	(508)295-6144	James Shaw

Western Region:

Adams WWTP	273 Columbia Street Adams	(413)743-1070	Joseph Figal
Amherst WWTF	Plainville Road Hadley	(413)256-4055	Robert Pariseau
Belchertown WWTP	State Street Belchertown	(413)323-6311x553	William Trombly
Chicopee WWTP	80 Medina Street Chicopee	(413)592-6808	Thomas Hamel
Easthampton WWTF	92 Ferry Street Easthampton	(413)527-4777	David Gagnon
Erving Center WWTP	Route 2 Erving	(413)544-7564	B. Thompson
Great Barrington WWTF	100 Bentley Rd Great Barrington	(413)528-0650	William Ingram
Greenfield WPCP	384 Deerfield Street Greenfield	(413)773-3578	Sandra Shields
Hadley WWTF	South Middle Street Hadley	(413)585-0460	D. Pipczynski
Hatfield WWTP	260 Main Street Hatfield	(413)247-9844	Frank Motyka
Holyoke WWTP	1 Berkshire Street Holyoke	(413)534-2222	Thomas Ordway
Hoosac Water Quality District	Simmonds Road Williamstown	(413)458-8423	George Heisler,
Huntington WWTP	Park Street Huntington	(413)667-3356	Edward Schott
Lee WPCP	Route 102 Lee	(413)243-2100x26	Henry Loring
Lenox Center WPCP	Crystal Street Lenox	(413)637-1973	Philip Bailey
Lenox Dale WPCP	Henry Avenue Lenox Dale	(413)637-1973	Philip Bailey
Millers Falls WWTP	River Road Millers Falls	(413)659-3354	John Patch
Monroe WWTP	Monroe Bridge Monroe	(413)424-7776	Edward Wiley
Montague WWTP	Greenfield Road Montague	(413)773-8865	David Simmons
Northampton WWTF	Hockanum Road Northampton	(413)586-6950x277	James Dostal
Northfield WPCP	Meadow Street Northfield	(413)498-2969	Lionel Gagnon
Old Deerfield WWTP	Little Meadow Road Deerfield	(413)774-4595	Edward Jablonski
Orange WWTF	West Main Street Orange	(978)544-6493	Larry Adams
Palmer WWTF	Norbell Street Three Rivers	(413)283-5730	John Gladkowski
Pittsfield WWTF	901 Holmes Road Pittsfield	(413)447-7460	Tom Landry
Russell WWTP	Grove Street Russell	(413)862-3871	Gerald Sikes
Shelburne Falls WWTP	17 State Street Shelburne Falls	(413)625-2300	Daniel Fleuriel
South Deerfield WWTP	Route 116 South Deerfield	(413)665-2651	Edward Jablonski
South Hadley WWTP	2 James Street Chicopee	(413)538-5040	Rudolf Urgiel
Springfield Regional WWTP	1600 E. Columbus Ave Springfield	(413)787-6256	Douglas Borgatti
Stockbridge WWTP	Route 102 Stockbridge	(413)298-4067	John Olander
Sunderland WWTP	Route 47-River Road Sunderland	(413)665-4304	Robert Gabry
Ware WWTP	Robins Road Ware	(413)967-4248	Robert Kaczowka
Westfield WWTP	59 Court Street Westfield	(413)568-9281	Alan Pierce

Appendix 3

Massachusetts Department of Environmental Protection

Addresses and Phone Numbers

DEP Boston
One Winter Street
Boston, MA 02108
Telephone: (617) 292-5500
Fax: (617) 556-1049
TDD: (617) 574-6868

William X. Wall Experiment Station
37 Shattuck Street
Lawrence, MA 01843
Fax: (978) 688-0352
Division of Environmental Analysis
Telephone: (978) 682-5237*Air Quality Surveillance*
Telephone: (978) 975-1138

Office of Watershed Management
627 Main Street
Worcester, MA 01608
Telephone: (508) 792-7470
Fax: (508) 839-3469

Millbury Training Center
Route 20
Millbury, MA 01527
Telephone: (508) 368-5600
Fax: (508) 755-9253
Residuals Sludge Manager
Telephone: (508) 368-5606
WWT Operator Certificatio
Telephone: (508) 368-5698

DEP Western Region
436 Dwight Street
Suite 402
Springfield, MA 01103
Phone: (413) 784-1100
Fax: (413) 784-1149

Adams
Agawam
Alford
Amherst
Ashfield
Becket
Belchertown
Bernardston
Blandford
Brimfield
Buckland
Charlemont
Cheshire
Chester
Chesterfield
Chicopee
Clarksburg
Colrain
Conway
Cummington
Dalton
Deerfield
Easthampton
East Longmeadow
Egremont
Erving
Florida
Gill
Goshen
Granby
Granville
Great Barrington
Greenfield
Hadley
Hampden
Hancock
Hatfield
Hawley
Heath
Hinsdale
Holland
Holyoke
Huntington Lanesborough
Lee
Lenox
Leverett
Leyden
Longmeadow
Ludlow
Middlefield
Monroe
Montague
Monterey
Montgomery
Monson
Mount Washington
New Ashford
New Marlborough
New Salem
North Adams Northampton
Northfield
Orange
Otis
Palmer
Pelham
Peru
Pittsfield
Plainfield
Richmond
Rowe
Russell
Sandisfield
Savoy
Sheffield
Shelburne
Shutesbury
Southampton
South Hadley
Southwick
Springfield
Stockbridge
Sunderland
Tolland
Tyringham
Wales
Ware
Warwick
Washington
Wendell
Westfield
Westhampton
West Springf
West Stockb
Whately
Wilbraham
Williamsburg
Williamstown
Windsor
Worthington

DEP Central Region
627 Main Street
Worcester, MA 01608
Phone: (508) 792-7650
Fax: (508) 792-7621

Acton
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Ashby
Athol
Auburn
Ayer
Barre
Bellingham
Berlin
Blackstone
Bolton
Boxborough
Boylston
Brookfield
Charlton
Clinton
Douglas
Dudley
Dunstable
East Brookfield
Fitchburg
Gardner
Grafton
Groton
Harvard
Hardwick
Holden
Hopedale
Hopkinton
Hubbardston
Hudson
Holliston
Lancaster
Leicester
Leominster
Littleton
Lunenburg
Marlborough
Maynard
Medway
Mendon
Milford
Millbury
Millville
New Braintree
Northborough Northbridge
North Brookfield
Oakham
Oxford
Paxton
Pepperell
Petersham
Phillipston
Princeton
Royalston
Rutland
Shirley
Shrewsbury Southborough
Southbridge
Spencer
Sterling
Stow
Sturbridge
Sutton
Templeton
Townsend
Tyngsborough
Upton
Uxbridge
Warren
Webster
Westboroug
West Boylsto
West Brookfi
Westford
Westminster
Worcester

DEP Southeast Region
20 Riverside Drive
Lakeville, MA 02347
Phone: (508) 946-2700
Fax: (508) 947-6557

Abington
Acushnet
Attleboro
Avon
Barnstable
Berkley
Bourne
Brewster
Bridgewater
Brockton
Carver
Chatham
Chilmark
Dartmouth
Dennis
Dighton
Duxbury
Eastham
East Bridgewater
Easton
Edgartown
Fairhaven
Fall River
Falmouth
Foxborough
Franklin
Freetown
Gay Head
Gosnold
Halifax
Hanover
Hanson
Harwich
Kingston
Lakeville
Mansfield
Marion
Marshfield
Mashpee
Mattapoisett
Middleborough Nantucket
New Bedford
North Attleborough
Norton
Norwell
Oak Bluffs
Orleans
Pembroke
Plainville
Plymouth
Plympton
Provincetown
Raynham
Rehoboth
Rochester
Rockland
Sandwich
Scituate
Seekonk
Sharon
Somerset
Stoughton
Swansea
Taunton
Tisbury
Truro
Wareham
Wellfleet
West Bridge
Westport
West Tisbury
Whitman
Wrentham
Yarmouth

DEP Northeast Region

205 Lowell Street
Wilmington, MA 01887
Phone: (978) 661-7600

Amesbury
Andover
Arlington
Ashland
Bedford
Belmont
Beverly
Billerica
Boston
Boxford
Braintree
Brookline
Burlington
Cambridge
Canton
Carlisle
Chelmsford
Chelsea
Cohasset
Concord
Danvers
Dedham
Dover
Dracut
Essex
Everett
Framingham
Georgetown
Gloucester
Groveland
Hamilton
Haverhill
Hingham
Holbrook
Hull
Ipswich
Lawrence
Lexington
Lincoln
Lowell
Lynn
Lynnfield
Malden
Manchester-By-The-Sea
Marblehead
Medfield
Medford
Melrose
Merrimac
Methuen
Middleton
Millis
Milton
Nahant
Natick
Needham
Newbury
Newburyport
Newton
Norfolk
North Andover
North Reading
Norwood
Peabody
Quincy
Randolph
Reading
Revere
Rockport
Rowley
Salem
Salisbury
Saugus
Sherborn
Somerville
Stoneham
Sudbury
Swampscott
Tewksbury
Topsfield
Wakefield
Walpole
Waltham
Watertown
Wayland
Wellesley
Wenham
West Newbur
Weston
Westwood
Weymouth
Wilmington
Winchester
Winthrop
Woburn